NJ Department of Education
Office of Educational Technology
Digital Learning NJ (DLNJ)

Introduction to the Classroom Application Documents (CADs)

Most aspects of our working and leisure time are influenced, if not completely shaped, by digital technologies. With each year, new technologies, new methods, new capabilities appear and are rapidly incorporated into everyday life. Today's K-12 students live in, study in and will work in settings that are dominated by digital technology—and much of the technology that will change their lives we cannot even yet imagine.

From the invention of a simple tool such as the spoon to the marvels of today's robotic surgical tools and satellites, technology appears as the result of the intersection between human needs and desires and human interest in invention and experimentation. Mastery of the kind of systematic analytical and critical thinking that underlies technological innovation is essential now for all students. It is important that deliberate connections are made between technology tools and analytical and critical thinking, and the essential content knowledge we want students to learn, apply and synthesize across the curriculum.

The Classroom Application Documents (CADs) were developed to give teachers resources and ideas about how they might use technology to support—and perhaps even completely redesign—instructional plans for essential learning in every content area.

There is a CAD for every grade level of every strand. Each CAD includes an activity designed to promote critical thinking while making relevant connections to content areas. A sampling of free resources has been identified to aid in execution of the activity. The pedagogy section of the CAD identifies instructional strategies to enrich learning, reduce barriers and engage learners as active participants. The goal is the seamless integration of technology and technological thinking within instruction that models the behaviors and skill development of productive citizens in a global society.

Below is from the pedagogical observations section of the tools document:

1. Standards 8.1 and 8.2 focus largely on ways of thinking and analyzing almost anything in the human experience. Twenty-first century technology has made it possible for students to learn and apply unparalleled amounts and types of new knowledge across all subject areas. While parts of Standards 8.1 and 8.2 focus explicitly on students' command of technology-based tools, facility with the tools themselves is never an end in itself. Rather, Standards 8.1 and 8.2 always link

the necessary command of the tools with the ability to accomplish more challenging and sophisticated kinds of work in all areas of study.

One useful way to think about Standard 8 is to look carefully at one particular strand, Standard 8.2C. In this strand, the purposeful analysis of steps in any process to accomplish any goal or set of goals is the focus. The conscious and deliberate design process (analysis, trial and error, assessment and redesign, more trials and revision) is a uniquely human capability, and fostering this capability in all students is a critical part of education in the 21st century.

Standard 8, the technology standard, offers teachers a path to incorporate this kind of deliberative thinking into much of what students do in order to learn how to read and understand in any subject, write convincingly across the curriculum, and use mathematics and science to understand how things work or might work better.

The CADS are found at www.tinyurl.com/techcads.